

Skylab astronaut reflects on America's first space station

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Joe Kerwin



Currently a senior vice president with Wyle Laboratories, Life Sciences, Systems and Services in Houston, Dr. Joseph Kerwin was a member of the Skylab 2 crew. Dr. Kerwin and fellow crewmembers Charles P. (Pete) Conrad Jr. and Paul Weitz spent more than 28 days aboard Skylab from May 25 to June 22, 1973. The crew conducted solar astronomy and Earth resources experiments, medical studies and five student experiments. The crew completed 404 orbits and 392 experiment hours and conducted three space walks totaling six hours and 20 minutes.

Skylab was America's first experimental space station. Designed for long-duration missions, Skylab Program objectives were twofold: to prove that humans could live and work in space for extended periods and to expand our knowledge of solar astronomy well beyond Earth-based observations. Successful in all respects despite early mechanical difficulties, three three-person crews occupied the Skylab workshop for a total of 171 days, 13 hours. It was the site of nearly 300 scientific and technical experiments: medical experiments on humans' adaptability to zero gravity, solar observations, and detailed Earth resources experiments. The empty Skylab spacecraft returned to Earth July 11, 1979, scattering debris over the Indian Ocean and the sparsely settled region of Western Australia.

Wyle supports NASA and Department of Defense aero-medical research, engineering and testing by providing in-flight medical experiments, health monitoring, airborne electronics maintenance, computer networking and other related services.

The following is an excerpt from an interview conducted by Kevin Rusnak earlier this year as part of JSC's Oral History Project.



Joe Kerwin strapped into sleep restraint in crew quarters of the Orbital Workshop. Kerwin is wearing the special cap which contains biomedical instrumentation for the Sleep Monitoring Experiment.

KERWIN: On launch day, now May 25th, we showed up at the launch pad and there was practically nobody there. This was the least well-attended Apollo launch in history, because everybody had to go home and put the kids back in school, you know. So it was a very peaceful morning.

That was a great engineering triumph. I don't know if the paperwork ever got done on this stuff, but it was quickly, carefully, collegially done. Everything we tried up there turned out to work. We had a very exciting first day, kind of a long first day. It was an eight hour or so rendezvous. Good rendezvous, nothing in particular to talk about.

RUSNAK: So you get up the next morning. What tasks do you have to look forward to then?

KERWIN: Checking pressure in the Skylab. Opening the hatches that are on the command module side and on the Skylab side. Getting into the multiple docking adapter, checking things out

there, and then a very careful procedure for sampling the air in the workshop through the hatch. They were afraid that this excess temperature had leached out some potentially damaging chemicals from the walls of the workshop, and they had carefully and quickly got together some Draeger tubes. They're glass tubes with reagent in them, through which you suck a certain amount of air and it'll measure for a specific reagent. We sampled that air through the relief valve in the workshop hatch, found that there were no measurable levels of – I can't remember what the chemical was anymore. So then opened that hatch and Weitz, as the system expert, went down first, and then Conrad followed, and then I was the last one to go down. The other main job that day was to get that parasol pushed out through the sunny-side airlock and deployed....

And then the job for the next three days or so was activation, bringing all the systems up and taking all the launch pins and other things out, just methodically

checking it. It took longer than we thought, because getting used to moving your body and doing those tasks in weightlessness takes a couple of repetitions to do. No real problems, just slow. Then we started in doing medical experiments.

We couldn't do much by way of Earth resources experiments, because we were seriously underpowered. Power was still a big problem.

[When the vehicle went supersonic, some windstream under the leading edge of the heat shield ripped around to one of the solar panels and carried it off with it at the shoulder. That panel was lost. When it got to the other panel, it ripped around it instead and preserved that panel, but riveted it almost completely shut. A piece of aluminum with a rivet at one end literally wrapped it to this solar panel cover and held it down. When the Skylab reached orbit and Mission Control commanded the solar panel covers to open, they got no response from one and they got a little trickle of power from the solar panel on the other side. The thing had opened, as it turned out, about a foot and then jammed. Then the temperatures inside began to climb.]

They were very, very careful with us, making sure that we didn't turn on too many lights at one time. We were not allowed to use the food or drink heaters down in the galley. We ate our food at room temperature. That was okay. There were certain experiment combinations that had to be prohibited....

So the first two weeks, we were still in the dark. We still hadn't solved all the problems, so there was still tension. We

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